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DECEMBER 5, 2014

VOL. LXVI, NO. 25

The Second Best Thing About Payday

nih record

Artist, 'Father of Neuroscience'

Nobelist Cajal's Drawings Now on Exhibit at NIH

By Carla Garnett

Since their once-in-a-lifetime trip to view the collected works of Spanish scientist-artist Santiago Ramon y Cajal, NIH senior investigator Dr. Jeffrey Diamond and former NIH artist-in-residence Rebecca Kamen have been anxious to share some of Cajal's original art with a larger audience. Their diligence paid off recently when 7 drawings by the Father of Modern Neuroscience traveled to the United States to be exhibited in the Porter Neuroscience Research Center.

"Everyone—at least everyone involved in science—knows that science is a creative process," explained Diamond, an art aficionado who, as a neuroscientist in NINDS's synaptic physiology section, studies the retina.

"These drawings by Cajal, who was

SEE CAJAL, PAGE 6



Shown Nov. 7 cutting the ribbon on the new exhibit are (from l) NINDS acting director Dr. Walter Koroshetz, Dr. Ricardo Martinez-Murillo, vice director of Spain's Cajal Institute, which loaned the art to NIH, and NINDS senior investigator Dr. Jeffrey Diamond.

Inspiring People

Panel Discusses Importance of Mentor Relationships

By Dana Talesnik

"Where are the others like me?" they'd wondered, as young, aspiring scientists who were members of the Hispanic or Native American communities. This sentiment motivated a group of scientists 40 years ago to found

SACNAS—Society for Advancement of Chicanos and Native Americans in Science. With 155 chapters across the country, SACNAS helps connect these ethnic communities to resources, opportunities and mentors.

Good mentoring relationships can shape careers and



NIH alum Dr. Ernest Marquez speaks on mentorship.

SEE MENTORS, PAGE 8

Veterans' Sacrifices Honored at NIH Ceremony

By Eric Bock

NIH recognized the sacrifices of veterans from all five military branches and the Public Health Service Commissioned Corps at the 3rd annual NIH Veterans Day Celebration held Nov. 5 in Masur Auditorium.

The celebration featured talks by NIH leadership and a retired Navy pilot who was held captive in North Vietnam for more than 8 years. The ceremony also included a performance by the Air Force Honor Guard Drill Team and a remembrance honoring fallen, missing or imprisoned service members.

NIH director Dr.



Navy Cmdr. (ret.) Everett Alvarez, Jr.

SEE VETERANS, PAGE 4



The NIH Record is recyclable as office white paper.



The NIH Record is published biweekly at Bethesda, MD by the Editorial Operations Branch, Office of Communications and Public Liaison, for the information of employees of the National Institutes of Health, Department of Health and Human Services. The content is reprintable without permission. Pictures may be available upon request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through September 30, 2015.

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NIH...Turning Discovery Into Health

nih record

briefs

Family Health History, A Priceless Gift

Each year, the U.S. surgeon general encourages everyone to focus on the importance of family health history through its Family Health History Initiative public health campaign.

Why is it important to discuss your family's health history? Diseases such as cancer, diabetes and heart disease often run in families. Tracing illnesses suffered by your parents, grandparents and other blood relatives can help your health care practitioner predict your risk for specific diseases and make vital screening and treatment decisions before any disease is evident.

With the surgeon general's online tool My Family Health Portrait (<https://familyhistory.hhs.gov>), people can gather and record their family health history before going to medical appointments. In addition, the tool allows users to save their family history information to their own computer and share health history information with other family members. The tool is available in English, Spanish, Italian and Portuguese.

Before you start using the tool, you will need to talk with your family members to gather more details about their health histories. There are tips on starting the conversations at www.hhs.gov/familyhistory/start/startenglish.pdf.

In the future, tests may make it possible to identify and fix the glitches in genes that increase a person's susceptibility to disease. The National Human Genome Research Institute is working on technology, for example, that will allow doctors to quickly create a personalized health plan based on a person's unique genetic blueprint. In the meantime, family health history is a no-cost component of your personalized health care.

As the holiday season continues, start a new tradition and create a family health portrait. This will be a priceless gift to you, your family and future generations.

Leave Bank Enrollment Ends Dec. 8

Open enrollment for the NIH Leave Bank is currently under way and will run through Dec. 8. Enrollment in the bank is open to all NIH employees. The membership period will begin on Jan. 11, 2015.

The NIH Leave Bank is a pooled bank of donated annual and restored leave available to eligible members. It offers income protection and amounts to paid leave for members who have exhausted all of their leave and are affected by a personal or family medical emergency/condition.

To join as a 2015 member, access ITAS during the open enrollment and enroll under "Leave Bank

Membership." The annual membership contribution is one pay period's worth of annual leave accrual (i.e. 4, 6 or 8 hours). For example, if you earn 8 hours of annual leave each pay period, your membership contribution will be 8 hours. If you do not have sufficient leave to make the membership contribution, you will automatically receive a waiver. If you are currently a 2014 Leave Bank member, your membership will automatically renew, so no action is necessary by you. If you are a 2014 member and wish to opt out, you may also do so in ITAS.

For more information about Leave Bank benefits, visit <http://hr.od.nih.gov/benefits/leave/vlbp/default.htm>. For more information call (301) 443-8393 or email LeaveBank@od.nih.gov.

Program Supports Undergraduate Research Opportunities

Undergraduate students will learn lab work and science leadership skills with mentors from NIH as one of 17 facilities taking part in the Amgen Scholars Program to prepare students for careers in science. Beginning in 2015, NIH will participate as a host institution, appointing candidates who meet both the NIH and Amgen scholars requirements. This is the first year that NIH will participate in the program in which scholars will spend the summer on campus, working with leading scientists. The program is made possible by an \$850,000 grant to the Foundation for the NIH from the Amgen Foundation, Thousand Oaks, Calif.

"An important aspect of this opportunity is that it will provide real-world experience to undergraduate students from low-resource settings who lack opportunities to perform independent research during the school year," said Dr. Sharon Milgram, director of the NIH Office of Intramural Training and Education. "We know that getting this type of hands-on experience makes a difference in retaining students in the sciences."

During their internships at NIH, the scholars will focus on projects to bridge the gap between foundational and applied science. Scholars will be matched with research mentors in the Intramural Research Program and will participate in a customized curriculum that will teach leadership skills and prepare them for research-oriented careers.

More about the Amgen Scholars Program at NIH can be found at <https://www.training.nih.gov/amgen-scholars>. Online applications began Nov. 15.

Roberts Lecture Set, Dec. 11

Dr. Y. Peng Loh, chief of NICHD's section on cellular neurobiology, will give the fall seminar in the Anita B. Roberts Lecture Series: Distinguished Women Scientists at NIH. Her talk, "Neurotrophic Factor $\alpha 1$: A Key Regulator of Neuroprotection, Depression and Cancer Metastasis," will be held on Thursday, Dec. 11 at 3:30 p.m. in Lipsett Amphitheater, Bldg. 10. The seminar series is dedicated to the memory of Anita B. Roberts, chief of NCI's Laboratory of Cell Regulation and Carcinogenesis from 1995 to 2006, honoring her role as an exceptional mentor and scientist.



A Honda Civic (l) and a Kia Sorento are now available for use by Zipcar enrollees.

PHOTO: ERIC BOCK

R&W Brings Car-Sharing to NIH

The NIH Recreation and Welfare Association has entered into an agreement with the car-sharing company Zipcar to offer two rental cars for use by staffers on the NIH campus.

The company has placed two cars, also called Zipcars, on the top deck of the NIH Gateway parking garage. Eventually, another vehicle will be parked at the taxi stand on Center Dr. near the Clinical Center's north entrance.

One Zipcar is a Kia Sorento, a mid-size sport utility vehicle, and the other one is a Honda Civic hybrid, a sedan.

"NIH employees who ride the bus, take the Metro, bike or walk to work will now be able to run errands or go to doctor's appointments in places that previously were hard to get to," said R&W President Randy Schools. "Being able to rent a car for only a few hours gives employees another transportation option."

Zipcar's discounted rate for NIH employees ranges from \$7.25 to \$9.25 per hour, depending on the size and make of the car. The rate includes the cost of insurance and fuel.

Either car can be reserved by anyone who holds a Zipcar membership. Reservations can be made online, over the phone or through the Zipcar mobile app. Anyone at least 21 years old who has a valid credit or debit card and a safe driving history is eligible to apply for Zipcar membership. Drivers with international licenses are also eligible to apply.

The Zipcars must be returned to their parking spots after they're driven.

To sign up for a membership, visit www.zipcar.com/NIH-employees.—Eric Bock



Over the next 4 years, starting this month, trained doctoral deer population control experts, in coordination with NIH veterinary staff, will anesthetize and neuter adult female deer on campus.

NIH Embarks on Deer Management Plan

For many NIH employees, the presence of white-tailed deer on the Bethesda campus is a welcome sight, offering a rural feel in our otherwise urban setting. For others, deer in the roadway blocking traffic, or worse yet, creating an accident threat is an unnecessary nuisance. During mating season, the risk to human safety is compounded when males tend to become more aggressive and reckless.

Regardless of what side you stand on, the densely developed and enclosed campus with few remaining open spaces is not an ideal habitat for a growing deer population. Based on expert evaluation, our 322-acre campus and its associated "livable" square footage has the ability to sustain a herd of 26 deer. The current population, with the birth of many new fawns this year, is estimated to be 30-40 total. With an average lifespan of 10-15 years, the deer's health and wellbeing are in jeopardy, particularly due to nutritional deprivation.

NIH does not permit hunting on campus. There are no known non-human predators (except a rare bear!). And, to date, no population control has been conducted. The Maryland department of natural resources does not allow relocation of deer. To continue doing nothing would not only be inhumane to the deer but also dangerous to our employees.



"After looking at all options, particularly non-lethal methods, the NIH identified the most effective approach that will manage, stabilize and potentially reduce the population in a long-term, safe, humane and socially and biologically acceptable manner," said Dr. Alfred Johnson, director of the Office of Research Services, the office responsible for overseeing the management plan. Over the next 4 years, starting this month, trained doctoral deer population control experts, in coordination with NIH veterinary staff, will anesthetize and neuter adult females. All local, state and federal requirements will be followed.

This 10-15 minute, non-lethal solution—less invasive than spaying a cat or dog—has been effectively enacted in the City of Fairfax and other locales around the country. "Over the long term, this program should reduce, but continue to protect the overall welfare of, the deer population while increasing employee safety," said Johnson.

VETERANS

CONTINUED FROM PAGE 1

Francis Collins thanked veterans and their families for their tremendous sacrifices to preserve Americans' freedom. He noted that NIH

employs 1,000 veterans. In fiscal year 2014, 122 veterans were hired—48 of whom have disabilities.

"Veterans are using their knowledge, skills and experience to help advance NIH's mission of turning scientific discoveries into better health for all," he added.

Navy Cmdr. (ret.) Everett Alvarez, Jr. gave the celebration's keynote address. He was the first pilot to be held as a prisoner of war in North Vietnam.

His plane was shot down Aug. 5, 1964, and he was captured. He was the first prisoner taken to what was later known as "the Hanoi Hilton."

In 1973, North Vietnam released Alvarez along with more than 500 other prisoners of war.

"There were some trying times," he said. "In order to make it, we recognized that we had to be creative, face reality and show some guts."

He said prisoners were isolated in tiny cells with no ventilation. They had

to tap on cell walls to communicate with each other.

The medical treatment for injured or sick prisoners was grossly inadequate. Many prisoners with severe injuries or illnesses died. The few who survived were cared for by other prisoners, he recalled.

"That's an example of the cohesiveness and the kind of love that was necessary to make it through that situation," Alvarez said.

Today, he is chief executive officer of Alva-

rez and Associates, an information technology and executive management services company. When hiring, he looks for people who understand his company's commitment to quality and integrity. Those people, he said, are veterans.

"They are tremendous assets," he said. "They understand loyalty, commitment, sacrifice and patriotism."

Maureen Gormley, chief operating officer of the Clinical Center, applauded the efforts of the NIH Veteran Recruitment and Retention Force to hire veterans. Founded in 2011, the VRF helps NIH uphold the federal government's commitment to hiring veterans.


She said the CC has worked with the VRF to implement two hiring initiatives at the hospital, the Veterans Incentive Program and the Operation Warfighter Initiative.

The Veterans Incentive Program offers combat medics from the Army and corpsmen from the Navy the opportunity to work as patient care technicians at the Clinical Center. Program participants also enroll in a nursing degree program. Gormley noted that upon completion of the program, the veterans may apply for permanent nursing positions at NIH.

The CC also participates in the Operation Warfighter Initiative, a federal government internship program. The initiative offers wounded active duty servicemembers job training opportunities while waiting for a medical board determination. She noted that the CC has hosted 7 veterans from the Army and the Marines.

"Veterans are special," she said. "Their experiences in military services truly enrich our family of employees at NIH."

Between talks, the drill team offered a sample of its skill. Veterans also took part in the Table of Remembrance ceremony—the tradition of setting an empty table to honor fallen, missing or imprisoned military service members.

The NIH Veterans Day Celebration was organized by the NIH VRF in partnership with the Office of Human Resources. 



In the top photo, the Table of Remembrance ceremony honors fallen, missing or imprisoned servicemembers. Below, an Air Force drill team puts on an exhibition.

PHOTOS: BILL BRANSON

'I Am Intramural' Blog Site Debuts

'I Am Intramural,' a new blog on the NIH Intramural Research Program's web site that's written by IRP members about their science, challenges and successes, is now available at <http://irp.nih.gov/blog>.

NIH director Dr. Francis Collins and NIH deputy director for intramural research Dr. Michael Gottesman have started the blog rolling on the subject of "Science That Changes Lives." And L'Oreal USA Women in Science fellowship awardee Dr. Robin Stanley, who is now a Stadtman tenure-track investigator, follows up with a series on making your scientific career search successful. Many more writers will follow, sharing thoughts about what it's like to conduct research in the IRP and how to make the most of your time here.

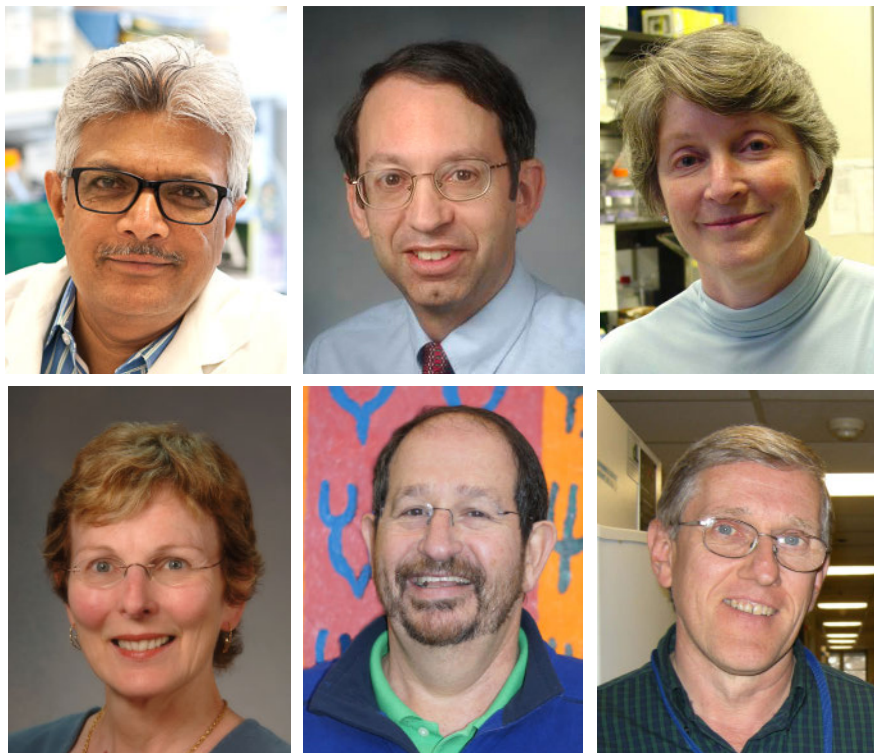
"We hope you enjoy the stories from researchers across our campuses and that you too will be inspired to share your story with us," said NHGRI's Dr. Andy Baxevanis, co-chair of a campaign promoting the IRP. "If you like what you see, please share the blog with your social media networks."

NIAID Launches Online Database of International Clinical Research Regs

NIAID recently launched ClinRegs, a public web site that helps researchers navigate country-specific regulatory information as they plan and implement clinical trials. The site serves as a central resource and potential time-saver by providing up-to-date regulatory information for multiple countries organized by topic area. In addition, users can compare requirements from two countries side-by-side.

Topic areas include clinical trial lifecycle, competent authority oversight, ethics committee oversight, informed consent, investigational products, specimens and sponsorship. The site currently provides information for 13 countries: Brazil, China, India, Kenya, Liberia, Malawi, Peru, South Africa, Tanzania, Thailand, Uganda, United Kingdom and the United States.

The ClinRegs team plans to expand the site in alignment with NIAID research priorities, including adding additional information on Liberia, Sierra Leone and Vietnam. Your comments are welcome to make the site a useful resource for the research community. Take the feedback survey at clinregs.niaid.nih.gov.



Newly elected fellows of the American Association for the Advancement of Science include (top, from l) Dr. Suresh Ambudkar, Dr. Jeffrey Cohen, Dr. Ann Dean and (bottom, from l) Dr. Irene Eckstrand, Dr. David Landsman and Dr. David Roberts.

Six from NIH Named AAAS Fellows

Six NIH scientists have been named fellows of the American Association for the Advancement of Science. Election as a fellow is an honor bestowed on AAAS members by their peers. They are among 401 members recognized for their scientifically or socially distinguished efforts to advance science or its applications.

From the section on biological sciences: Dr. Ann Dean, chief, section on gene regulation and development, Laboratory of Cellular and Developmental Biology, NIDDK; Dr. Irene Eckstrand, program director, Genetics and Developmental Biology Science Officer, MIDAS Program, NIGMS; Dr. David Landsman, chief, Computational Biology Branch, National Center for Biotechnology Information, NLM.

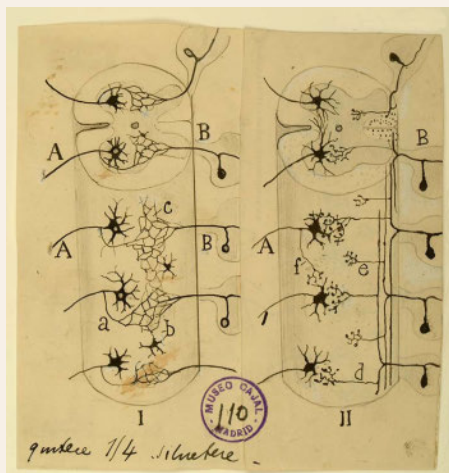
From the section on chemistry: Dr. David Duncan Roberts, senior investigator and head of the biochemical pathology section, Laboratory of Pathology, Center for Cancer Research, NCI.

From the section on medical sciences: Dr. Jeffrey I. Cohen, chief, Laboratory of Infectious Diseases, NIAID.

From the section on pharmaceutical sciences: Dr. Suresh V. Ambudkar, chief, transport biochemistry section, and deputy chief, Laboratory of Cell Biology, Center for Cancer Research, NCI.

New fellows will be presented with an official certificate and a gold and blue (representing science and engineering, respectively) rosette pin on Feb. 14, 2015, during the AAAS annual meeting in San Jose, Calif.

The AAAS is the world's largest general scientific society and publisher of the journals *Science*, *Science Translational Medicine* and *Science Signaling*. AAAS was founded in 1848, and includes 254 affiliated societies and academies of science, serving 10 million individuals. The tradition of AAAS fellows began in 1874.



CAJAL

CONTINUED FROM PAGE 1

Above, I:

In one of his most famous drawings, currently on display at NIH, Santiago Ramon y Cajal sketched a comparison of competing ideas about the composition of the nervous system. In the late 19th century, many scientists, including the great Italian neuroanatomist Camillo Golgi, contended that the nervous system was a continuous mesh, or reticulum (designated "I," at left in the drawing above). Cajal's observations led him to postulate that the nervous system contained discrete cells contacting each other at precise points later termed synapses ("II," right column). Cajal used a staining technique developed by Golgi to prove his rival wrong. They later shared the 1906 Nobel prize.

At right, a visitor takes in the new exhibit as Diamond gives remarks at the opening. A Cajal micrograph image forms the gallery's floor.

Right:

Sculptor Rebecca Kamen stands beside "Butterflies of the Soul," which she says "interprets the development of modern neuroscience" and was inspired by a quotation from Cajal.

EXHIBIT PHOTOS: BILL BRANSON

an artist, anatomist and is considered the father of modern neuroscience, will be inspiring to the scientists who work here. There's a huge educational component to this."

In March 2012, Diamond—a longtime Cajal enthusiast—was invited to Madrid to give a scientific lecture at the Cajal Institute (CI), the oldest neurobiology research center in Spain. At NIH on a fellowship around the same time, Kamen was also offered an opportunity to visit CI—home to a vault archiving Cajal's research, drawings, paintings, scientific files and papers.

"My interest—the retina of the eye—was one of his favorite topics," Diamond said. "The connection was immediate."

Born in Spain in 1852, Cajal revealed his scientific genius early in artwork he did as a child, said Kamen, who gave a lecture on her neuroscience-inspired art during the same CI visit.

"It was obvious in that 8-year-old's painting that the seeds for his scientific discoveries were already planted," she said. "Really good scientists and really good artists are both very intuitive. It was incredible that someone that young could see and record what he did at that age...before electron

microscopes, before all of the modern technological advances we have now."

A local artist whose interests in the intersection of art and science span chemistry, physics, astrophysics and now neuroanatomy, Kamen said after Diamond shared some of Cajal's images with her, she was instantly inspired. She immediately began her own study of his life and work.

As a youngster, she noted, Cajal apparently intended to pursue art as a career, but was steered—forcefully—by his anatomy teacher father into science and medicine. Excelling in both fields, Cajal eventually developed highly intricate and precise techniques for staining tissues of the brain—and illustrating its connections.

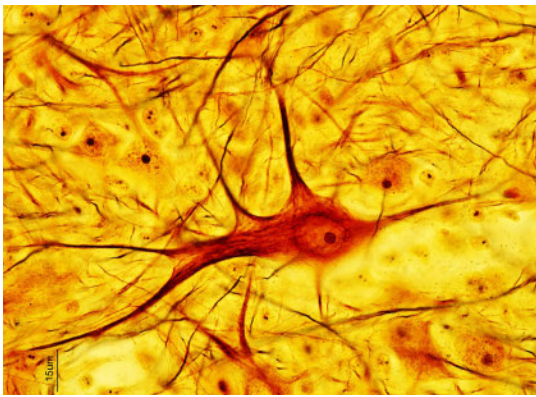
"Cajal was able to show beautiful, elegant structures of individual neurons and link the structure of those neurons to their function," Diamond said.

His advances in neuroanatomy, brain pathology and developments defining the nervous system led Cajal to provide evidence of "neuron doctrine," which is the basis for modern neuroscience. Cajal shared (with Italian pathologist Camillo Golgi of "Golgi stain" renown) the 1906 Nobel Prize for Physiology or Medicine.

As they toured the institute named for Cajal and saw his original work firsthand, Diamond and Kamen said they knew they had to find a way to get some of the drawings back to the Porter Neuroscience Research Center, which at the time was still under construction. In addition they had to convince the folks at CI to share their national treasures.

"At first they were a little skeptical of the idea, I think," recalled Diamond. "I wasn't sure the drawings had ever left Spain, much less traveled to the U.S. But after about 2 days and after the talks we gave, they could see how serious we were. They became very enthusiastic about lending some of the work to NIH."





Top: On the floor beneath the drawings, visitors will encounter photographic “tiles” that reproduce details of tissue slides that Cajal prepared. The neuron cell structures appear exactly as Cajal viewed them.

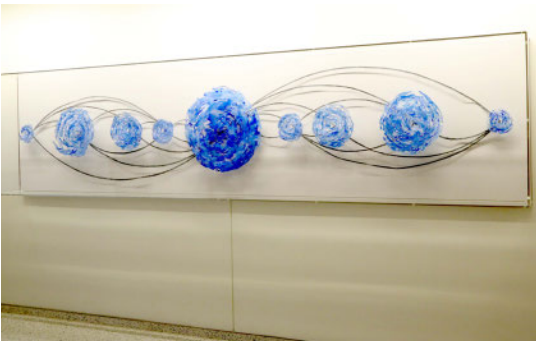
Bottom: Hank Grasso (l), exhibition content developer with the Office of NIH History, joins Koroshetz, Martinez-Murillo and Diamond at the Cajal gallery opening.

It also didn't hurt that Kamen crafted a miniature version of one of her Cajal-inspired sculptures—“Butterflies of the Soul”—and hand-carried it on the plane as a gift to the CI.

“Between the two of us, I think we were pretty persuasive,” she joked. Nearly 2½ years—and many untold logistical maneuvers—later, the exhibit is finally a reality. In addition, Kamen installed several of her neuroscience-inspired pieces in the Porter Bldg., alongside the Cajal drawings.

“It's an honor to be in the same collection with his work,” she said.

The Cajal exhibit at PNRC, developed and sponsored by NIH's Office of NIH History in the Office of Intramural Research, will be open through April.



The largest of Kamen's sculptures installed with the Cajal exhibit is “The Measure of All Things.”



The graduates include (l, front to back) Amy Swain, NIGMS; Judith Hewitt, NIAID; Rajesh Ranganathan, NINDS; Treava Hopkins-Laboy, OD; Anne Tatem, OD; Franziska Grieder, OD; T. Jake Liang, NIDDK; David Shurtleff, NCCAM; Laura Lyman Rodriguez, NHGRI; and (r, front to back) Anita Linde, NIAMS; Elizabeth Gillanders, NCI; Tim Tosten, ORS; Matthew McMahon, NEI; Chad Wysong, NIDCD; James Meegan, NIAID; Phil Day, CIT; Richard Siegel, NIAMS; Christine Flowers; NIEHS; George Mensah, NHLBI. Not shown is John McKew, NCATS.

2014 NIH Executive Leadership Program Cohort Graduates

Twenty leaders from 15 institutes and centers recently graduated from the NIH Executive Leadership Program (ExLP). The ceremony featured Holly Wong, principal deputy assistant secretary for the Office of Global Affairs, HHS, who shared insight about the importance of U.S. leadership in global health, the role of HHS and U.S. medical/research agencies in global health and how individual leaders can make a difference in this arena.

NHGRI director Dr. Eric Green offered his “6 tenets of leadership,” encouraging ExLP graduates to: be passionate, brave, learn from role models, embrace debate, value partnerships and “always keep your eyes on the ball.”

“Being an effective leader requires ongoing self-reflection and skill-refinement,” said Green. “We are fortunate that NIH sees the value in leadership training, providing you and others the opportunity to become better leaders through programs such as the one from which you are now graduating.”

ORF's Leifer Receives DOE Award

The Department of Energy has presented ORF's Greg Leifer with a 2014 Federal Energy and Water Management Award for Exceptional Service on behalf of NIH. Leifer is the energy efficiency and water efficiency manager for NIH and has been acting in this capacity since 2001. He coordinated energy efficiency efforts across the agency, which comprises a total of nearly 16 million gross square feet of facility space. During his 13-year tenure, NIH has increased its facility space by 35 percent and has added approximately 4 million gross square feet of mostly energy-intensive space. Leifer's efficiency programs have positioned NIH to meet campus energy and water reduction goals as outlined in the Energy Independence and Security Act of 2007 and Executive Order 13514. From 2003 to 2013, the Bethesda campus's energy use dropped by 27 percent and water use dropped by 14 percent. Leifer's efforts and cost-saving vision enabled NIH to lower its water and energy bills and to reduce its greenhouse gas emissions. An awards ceremony to honor the 2014 winners will be held this month at the National Archives in Washington, D.C.





MENTORS

CONTINUED FROM PAGE 1

Above, from 1:

Dr. Hannah Valantine, NIH chief officer for scientific workforce diversity, recalls the value of mentors to her career.

Serving as moderator was Dr. Mary L. Garcia-Cazarin, scientific advisor for the Office of Disease Prevention's Tobacco Regulatory Science Program and member, NIH SACNAS chapter.

"I don't recall a time when mentoring was more important than now," says Dr. Jose "JV" Vergara Martinez, a chemical physicist and a founding member of SACNAS.

Below:

Dr. Sharon Milgram, director, Office of Intramural Training and Education, advises finding mentors in multiple areas to get the scientific, career and personal support you need.

PHOTOS: ERNIE BRANSON



have a lifelong impact. But what makes a good mentor? How do you get a mentor or become one? How can mentors be effective across cultures? At a recent seminar sponsored by NIH's SACNAS chapter, panelists offered personal perspectives and advice, underscoring cultural diversity as integral to a robust scientific workforce.

"I was a beneficiary of good mentorship," said Dr. Hannah Valantine, NIH chief officer for scientific workforce diversity. She recounted her cardiology training in England at a time when there were only two other female cardiologists in the country. Her mentor went above and beyond with advice and training, she said, encouraging her, helping her get that next position and advance in her field.

Treava Hopkins-Laboy faced a different challenge. As an introvert, she found it difficult to network. Now deputy director of the NIH Office of Equity, Diversity and Inclusion, she said she was lucky to have aggressive mentors "who threw me into things and pulled me out of that shell and helped me navigate through my career." Now, as a mentor, she said, "I find myself seeking out people who appear to be like me and pulling them in."

For Dr. Sharon Milgram, director, Office of Intramural Training and Education, a one-time encounter with someone she met at her first scientific meeting yielded advice she remembers to this day. Even a single meeting can be life-changing, she said. She recommended seeking mentors who can advise on multiple levels to enhance personal, scientific and career goals. "We all need mentors in all realms of our lives," she said.

Dr. Ernest Marquez, a biochemist who worked at NIH for 20 years and is a founding member of SACNAS, has had a multifaceted career that included stints in the military, industry and academia, though all were rooted in biology and mentors helped him achieve his goals at each turn. "Plans may change, but have a plan," he

said. "Develop a sound foundation in the sciences that underpins your career choice."

When opportunities arise, taking initiative can go a long way. Back when he was a medical student in Argentina, Dr. Juan Lertora, director of the Clinical Center's Clinical Pharmacology Program, had volunteered to interpret for a visiting professor who wound up becoming one of his most trusted mentors later in his career.

"Often mentors don't even realize they're being mentors," said Rick Haverkate, a public health advisor for American Indians. "It can be a fleeting moment—someone offers you a handshake, a 'good luck' or sits you down and helps you map out your career goals." He recommended creating career objectives and remaining receptive to new relationships and advice.

It can be intimidating to approach a potential mentor. "Don't be bashful," said Lertora. "Just step forward, request a meeting and hopefully the interaction will develop in the right direction."

Mentors can help bring more minority students into the sciences and infuse more diversity into the workforce. "I emphasize giving back to the community, because Native Americans are so underrepresented as scientists," said Dr. David Wilson, director of American Indian Affairs & Science Policy at SACNAS and a member of the Navajo Nation.

"The issue of underrepresentation is not a Hispanic or Native American or even African-American issue; it's a national issue," said Antonio Rodriguez, an engineer from Puerto Rico who serves as director, Office of Quality Management, Office of Research Services. "Minorities are growing and growing and we will not have enough scientists and doctors and engineers to take care of not only our demographic, but all demographics."

There's no set structure in the ongoing and evolving mentoring relationship, said Dr. Ofelia Olivero, associate director for scientific diversity, National Cancer Institute, and author of *Interdisciplinary Mentoring in Science*.



Antonio Rodriguez (l), director of NIH's Office of Quality Management, says mentors helped guide his career path as an engineer coming from Puerto Rico. Also shown are panelists Dr. Juan Lertora (c), director, Clinical Center Clinical Pharmacology Program, and Rick Haverkate, public health advisor and policy lead for American Indians.

"The mentor does not tell you what to do," Olivero said. "A mentor shows you possibilities, based on the knowledge the person has and on your potential, and reaches to you really deeply, knows what you are able to do and suggests or shows you the path. Then you choose what path you take." 🍎

Next Protocol Navigation Lecture, Dec. 15

The IRP Protocol Navigation Training Program Seminar Series continues with a lecture to be held Monday, Dec. 15 from 2 to 3 p.m. in Bldg. 50, Conf. Rm. 1227/1328. The program is a trans-NIH effort to develop resources and tools and to provide training for intramural staff and contractors involved in protocol development, writing, coordination and management. Karla Bailey, OMB liaison with the NCI Office of Management, Policy and Compliance, will present "The Paperwork Reduction Act (PRA) OMB Clearance Process: An NCI Perspective." For more information, contact Beverly Barham, (301) 594-2494, bbarham@mail.nih.gov or Marcia Vital, (301) 451-9437, vitalm@mail.nih.gov.

NEI Seeks Volunteers for AMD Study

NEI is looking for people over the age of 50 who have early to intermediate age-related macular degeneration. At the first visit, you will be asked to answer questions about your eyes in different light conditions. After being dilated with eye drops, you will be asked to take part in the dark adaptation procedure. For the procedure, a machine will measure how fast your eyes recover in decreasing levels of light. The machine also measures how sensitive your eyes are in dim lighting. You will be in the study for 5 years. You will have at least 9 outpatient visits at NIH. You will not be paid for participating in the study. For more information, call 1-800-411-1222 (TTY 1-866-411-1010) and refer to study 11-EI-0147.



Burgdorfer, Who Identified Cause of Lyme Disease, Dies at 89

Dr. Willy Burgdorfer, a medical entomologist who gained international acclaim for identifying the cause of Lyme disease, died Nov. 17 in Hamilton, Mont. He was 89 years old. A self-proclaimed "tick surgeon," Burgdorfer dissected thousands of the arachnids during a research career of nearly 35 years at the National Institute of Allergy and Infectious Diseases.

In late 1981, while examining deer ticks at NIAID's Rocky Mountain Laboratories (RML), Burgdorfer was surprised to see corkscrew-shaped organisms on the slides of his microscope. The ticks had been sent to him by New York colleagues who were trying to determine the cause of a spotted fever outbreak near Long Island.

"Once my eyes focused on these long, snake-like organisms, I recognized what I had seen a million times before: spirochetes," he said in a 2001 interview. At the time, hard-bodied, slow-feeding deer ticks were not known to carry spirochetes. Later, Burgdorfer obtained serum samples from Lyme disease patients and tested them for antibodies against the bacterium. "When the tests were positive, we knew we were dealing with the causative agent of Lyme disease," he said.

Burgdorfer and his colleagues published their seminal work in the journal *Science* in 1982. A year later, at the first international symposium on Lyme disease, Burgdorfer's colleagues voted to name the new organism after him: *Borrelia burgdorferi*.

He continued his work at RML until retiring in January 1986. He was an internationally recognized expert on rickettsial diseases such as typhus and Rocky Mountain spotted fever. After his retirement, he maintained an office at RML on a part-time basis. He continued to visit colleagues at the lab and discuss advances in his field of research. One of Burgdorfer's protégés was Dr. Tom Schwan, former chief of NIAID's Laboratory of Zoonotic Pathogens.

"Willy was a great mentor and friend and he was a tremendous help getting me started with my research at RML back in 1986," said Schwan. "I think I treasure most those times in the lab when he taught me techniques that he developed and fine-tuned during his long and productive career while working with ticks."

Burgdorfer was born and educated in Basel, Switzerland. He earned his Ph.D. in zoology, parasitology and bacteriology from the University of Basel and the Swiss Tropical Institute. He spent much of his early career in the 1950s studying a bacterium that causes relapsing fever disease. After finishing his doctoral studies, Burgdorfer traveled to RML in Hamilton, Mont., to begin his study of ticks.

At the time of his death, Burgdorfer was married to Lois Rohr Burgdorfer, his second wife. He met his first wife, Dale, at RML and they married in 1952; she died in 2005. Burgdorfer is survived by his sons, Bill and Carl, and grandchildren Alex and Madison.

Burgdorfer was very active in the Hamilton community. He often lent his booming voice to many musical events over the decades. He also was instrumental in bringing youth soccer to Hamilton and Montana's Bitterroot Valley.



Above, from l:

Megan O'Boyle, director of the Phelan-McDermid Syndrome Foundation, participates in "How Can We Help You and How You Can Help Us?" session.

Dr. Amelie Gubitza, program director in the neurodegeneration cluster of the Division of Extramural Research, NINDS, leads "How Do You Build Your Research Program?" session.

Dr. Kurt Fischbeck (r), chief of the Neurogenetics Branch, chairs the clinical outcomes panel. Fellow panelists include Dr. Jane Paulsen (l), Roy J. Carver chair in neuroscience and director of the divisions of neuropsychology and psychology at the University of Iowa Carver College of Medicine; and NINDS deputy director Dr. Walter Koroshetz.



NINDS Holds Nonprofit Forum, Focuses on Partnerships

By Shannon E. Garnett

The importance of building and maintaining partnerships was the central message delivered at NINDS's 8th nonprofit forum held recently at NIH. Representatives from more than 50 nonprofit organizations attended the 1½-day meeting, "Progress through Partnership," which focused on multiple aspects of the NINDS research portfolio and the necessity of collaborations.

"When I first became the institute director, I realized that I did not know enough about the issues and concerns and difficulties that patients with neurological disorders have," said NINDS director Dr. Story Landis in opening remarks. "And I knew that one of the most important things I could do was to learn more about the patient community." The meeting served as one of Landis' last official acts before she retired Oct. 3, after 19 years of government service. "This forum is an opportunity for people who run foundations and patient advocacy groups to learn what's going on at NIH and NINDS, network with colleagues and engage in discussions with NINDS staff."

Dr. Rajesh Ranganathan, director of the NINDS Office of Translational Research, led "When Is the Time for Handoff? How to Engage the Pharmaceutical Industry in Your Disease." Panelists from the pharmaceutical industry and the nonprofit community talked about best strategies for partnering. They encouraged nonprofit groups to start the dialogue with industry early, understand the landscape well, be strategic and network effectively.

A session on nonprofit success stories highlighted experiences of four groups: the Hydrocephalus Association, Parent Project Muscular Dystrophy, Dysautonomia International and Friedrich's Ataxia Research Alliance.

The meeting also featured panels on Clinical and Translational Science Awards (CTSAs), clinical outcomes and the Patient-Centered Outcomes Research Institute (PCORI). "How Can Patients Work with CTSAs?" explored the

NCATS CTSA program with a particular interest in neuroscience.


A panel led by NINDS senior investigator Dr. Kurt Fischbeck asked "How do we know if a treatment works?" and discussed the importance of developing clinically meaningful outcome measures to assess the effectiveness of a treatment.

The "Power of Partnerships: Engaging Patients in PCORI Research" panel looked at one of the newest funders of biomedical researchers. PCORI is a nonprofit, nongovernmental organization that was created as part of the Patient Protection and Affordable Care Act of 2010 to help patients and their caregivers make better informed decisions about health.

"The pendulum is shifting," said panelist Megan O'Boyle, director of the Phelan-McDermid Syndrome Foundation and a PCORI principal investigator. "The patient should be in the room with the FDA and with industry and with the clinicians who are designing the studies. It's wonderful to be in the room at the table. In order for patient engagement to continue to work, thrive and really prove its point, we need to show that patients are collaborators and that we, too, can play well with others."

During a plenary session on the NIH BRAIN Initiative, Landis shared information on the current state of the effort's 12-year plan and first grants.

"Brain disorders are the leading source of disease burden and cost in the United States," Landis said. "Recent breakthroughs are transforming how we study brain structure and function, but the best is yet to come. The BRAIN Initiative will build on this recent progress to create tools that will accelerate discovery and build the foundation we need to reduce the burden of brain disorders."

The meeting then split into breakout sessions, after which nonprofit representatives met informally with NINDS program directors. The annual forum represents the institute's continued commitment to sustain partnerships with the nonprofit community. 

digest



Building on years of mouse and gene regulation studies, an international group of researchers has developed a resource that can help scientists better understand how similarities and differences between mice and humans are written in their genomes.

New View of Mouse Genome Finds Many Similarities, Differences with Human Genome

Looking across evolutionary time and the genomic landscapes of humans and mice, an international group of researchers has found powerful clues to why certain processes and systems in the mouse—such as the immune system, metabolism and stress response—are so different from those in people. Building on years of mouse and gene regulation studies, they have developed a resource that can help scientists better understand how similarities and differences between mice and humans are written in their genomes.

Their findings—reported by the mouse ENCODE Consortium online Nov. 19 (and in print Nov. 20) in four papers in *Nature* and in several other publications—examine the genetic and biochemical programs involved in regulating mouse and human genomes. The scientists found that, in general, the systems that are used to control gene activity have many similarities in mice and humans and have been conserved, or continued, through evolutionary time.

The results may offer insights into gene regulation and other systems important to mammalian biology. They also provide new information to determine when the mouse is an appropriate model to study human biology and disease and may help to explain some of its limitations.

“In general, the gene regulation machinery and networks are conserved in mouse and human,

but the details differ quite a bit,” noted co-senior author Dr. Michael Snyder of Stanford University. “By understanding the differences, we can understand how and when the mouse model can best be used.”

Mitral Valve Repair Following Heart Attack May Offer Patients Little To No Benefit

Routinely adding mitral valve repair to coronary artery bypass graft surgery for heart attack patients may not be warranted in patients with moderate mitral valve damage, according to an NIH-funded study. Patients treated with both procedures versus the bypass graft alone showed no differences at 1 year in recovery from structural damage to the heart’s left ventricle, nor in secondary measures such as heart failure, stroke, functional status or quality of life.

The results of the Surgical Interventions for Moderate Ischemic Mitral Regurgitation study, supported by NHLBI, were presented Nov. 18 at the American Heart Association scientific sessions in Chicago and published simultaneously in the *New England Journal of Medicine*.

About 1 million Americans suffer heart attacks each year. Of these, about half are left with functional damage to the mitral valve due to the injury and changes to the heart muscle. This damage can result in leaks, causing a backflow of blood accompanied by symptoms such as shortness of breath, abnormal fatigue and excess blood in the lungs.

Doctors typically treat heart attack patients with this condition, called ischemic mitral regurgitation, by performing coronary artery bypass graft surgery, sometimes adding a procedure to repair the leaky mitral valve. The study is the first large-scale randomized clinical trial to assess whether adding the repair procedure leads to a measurable benefit for patients.

NIH-Sponsored Study Identifies Superior Drug Regimen for Preventing Mother-to-Child HIV Transmission

For HIV-infected women in good immune health, taking a three-drug regimen during pregnancy prevents mother-to-child HIV transmission more effectively than taking one drug during pregnancy, another during labor and two more after giving birth, an international clinical trial has found.

The ongoing PROMISE (Promoting Maternal-Infant Survival Everywhere study) also has found that one triple-drug regimen for preventing mother-to-child transmission may be safer than another for women and their babies.

These findings provide further support for World Health Organization guidelines for preventing mother-to-child HIV transmission, according to the researchers. The findings were reported Nov. 4 during a review of PROMISE study data by an independent data and safety monitoring board.

“We now have the gold standard of evidence—data from a randomized clinical trial—supporting a three-drug regimen as the preferred approach for preventing HIV transmission from an infected mother to her baby during pregnancy and delivery,” said NIAID director Dr. Anthony Fauci. “This is another important step in our efforts to define the best approaches toward the goal of eliminating mother-to-child HIV transmission globally.”

Asthma Research Volunteers Needed

Individuals 18 years or older with asthma are sought to participate in a 1- to 2-day research study in the Cardiovascular and Pulmonary Branch, NHLBI. A thorough medical evaluation and monetary compensation will be provided. If interested, call (301) 402-1553.

Experts Discuss Building Health into the Environment

By Andrey Kuzmichev

With growing inactivity and obesity, today's American children may for the first time in history have a shorter life expectancy than their parents. Human-made surroundings, such as buildings, sidewalks, parks and transportation systems—also referred to as the built environment—are at the root of both the problem and the solution.

A Medicine: Mind the Gap seminar held Nov. 5 at Natcher Conference Center brought together partners from academic research, planning and local authorities to foster healthier built environments. Acting surgeon general RADM. Boris Lushniak delivered opening remarks.

Dr. Allen Glicksman, director of research and evaluation at the Philadelphia Corporation for Aging, presented results of his NINR-funded study showing that walkability and age-friendly efforts improve senior health. There is ample evidence that physical activity and access to nature benefit personal well-being, job performance and local economy. Surveys show that people naturally prefer compact walkable communities to traditional car-dependent suburbs. Rachel MacCleery, senior vice president of the Urban Land Institute, provided examples of how community developers can shape public health by “making the healthy choice—such as walking instead of driving—the easy choice.”

Gwen Wright, planning director of the Montgomery County planning department, highlighted local efforts to promote the concept of 10-minute living—easy access to healthy foods, parks and amenities. Transit-oriented design (TOD) offers convenient transportation choices that encourage walking and helps create healthy neighborhoods. One example of a TOD community is the Pike and Rose development being constructed near the White Flint Metro. Montgomery County maintains large farmland reserves and actively supports the suppliers of local produce such as the Bethesda Farm Women's Market, which has been open since 1932. The county had partnered with local physicians for a “park prescription” program that helps residents reconnect with nature. Wright mentioned that the NIH campus in Bethesda is an important part of the county's master plan.

Nearly 300 people joined the seminar in person or via videocast and a lively discussion continued on social media. Many NIH institutes and offices—including NIDA, NIMH, OBSSR and NCCAM—participate in the National Preven-



Speakers at the Medicine: Mind the Gap seminar included Gwen Wright (l) of the Montgomery County planning department and acting surgeon general RADM. Boris Lushniak.

PHOTOS: DANIEL SOÑÉ

tion Strategy, which the seminar series highlights. The seminar, the first in the series, was co-sponsored by the NIH Office of Disease Prevention and the Office of the Surgeon General. Commending the joint effort, Lushniak said, “Built environment is a key component of the concept of walkable communities, of putting America back into its walking shoes. It's achievable, but for that, we need partnerships, we need to think outside the box, we need to mind the gap.”

NIAMS Hosts Its First Bilingual Twitter Chat

In recognition of Hispanic Heritage Month, NIAMS recently hosted a Twitter chat in English and Spanish that focused on lupus, an autoimmune disease that disproportionately affects Hispanic women. Tweets were posted in both languages and questions were answered in the language in which they were received.

During the chat, NIAMS experts Dr. Mariana Kaplan, chief of the Systemic Autoimmunity Branch, and Dr. Susana Serrate-Sztejn, director of the Division of Skin and Rheumatic Diseases, shared the latest advances in lupus research. Dr. Irene Blanco, assistant professor of rheumatology at Albert Einstein College of Medicine of Yeshiva University, served as a guest “tweeter” and assisted in responding to questions. Blanco is an expert in the clinical aspects of lupus and a former NIH grantee. Other ICs and HHS offices, including the HHS Office on Women's Health, participated in the event.

The hour-long chat generated 578 tweets from 116 different contributors and reached a potential 1.2 million Twitter users. Participants asked questions about diagnosing lupus, the differences among the various types of lupus, its impact on people's lives and what research is being conducted at NIH. Several lupus patients also posted messages about their personal experiences living with the disease.

The bilingual Twitter chat is part of NIAMS's ongoing efforts to reach multicultural communities with health information and resources. The institute offers a suite of publications in Spanish, Chinese, Korean and Vietnamese for people with limited English proficiency, as well as a dedicated Spanish-language portal on its web site.

